OXCART

IRS -4372-67

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25 September 1967

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Series "B" #3

MEMORANDUM FOR THE RECORD

SUBJECT: SR-71

1. The SR-71 reconnaissance aircraft is quite similar in appearance to the OXCART vehicle, but in addition to being a bigger and heavier bird than the OX, and carrying a two-man crew, it utilizes the "multi-sensor" approach to imagery collection. (The OX uses a single camera installation.) The SR-71 carries three cameras [redacted] 25X1

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2. All cameras proposed for use in the SR-71 are conventional in design, insofar as this definition can be applied to modern reconnaissance. There are no strange or unusual formats, or photo resolutions beyond the capability of the Center to exploit. As a result we have not had to devise any unique programs or procedures to accommodate this material. The total camera film footage from a SR-71 mission will be just a little more than that received from the single-camera OX mission. This all indicates no insurmountable PI problems will be encountered in reading out the SR-71 photography. Doubtless, there will be some lost motion with the first few missions owing to lack of experience with this new system, but this would be typical of our experience in the early stages of previous systems.

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4. Both the SR-71 and the OX carry similar, but not identical, inertial navigation systems (I.N.S.). NPIC utilizes taped records of this information, after correlation with the photography. This provides the geographic location of each photograph, vehicle attitude for each photograph, and a wealth of data useful for photogrammetric purposes. The OX I.N.S. data has been quite beneficial to the Center's exploitation process. The difference between the OX and SR-71 I.N.S. systems is significant in view of the data reduction processes involved, and we know very little about the nature of SR-71 I.N.S. data. This is an area in which the Center may be handicapped in working with SR-71 materials. I.N.S. data is of little real benefit during first phase (IPIR) exploitation because the basic task associated with finding SSMs is one of identification, not measurement. However, should the SR-71 replace the OX, the IPIR readout will become a field operation, with NPIC's task being second phase readout, in addition to back-up PI activity to protect the field operations. It is in the second and detailed phases of PI that the I.N.S. data will be necessary. NPIC has taken steps since April 1967 to try to resolve differences between the OX and SR-71 I.N.S. data systems.

5. It should be noted that the pressure to pursue this problem area has, until the last couple of months, been very slight. The SR-71 problem, though existant, was more of almost academic interest. Only since the OX deployment, followed by verbal statements (and more recent COMIREX discussions) about the replacement of the OX by the SR-71 did the SR-71 I.N.S. become a more serious problem. In the original SR-71 concept, this was to be a SAC operation. The SR-71 was conceived as a "typically SAC" systems approach to reconnaissance - they plan the mission, execute it, process and reproduce the film, and exploit it - the "womb to tomb" concept. This left very little for others to be concerned with, and the AF slight regard for other potential users' preparedness only confirmed that this was to be a typical SAC program. The usual implication for NPIC was that the Center would not be directly involved in SR-71 activities.

6. There has been a considerable amount of traffic between the Center and the SR-71 program, dating back to mid-1965. I personally have been to Beale AFB twice, as recently as August 1967, in company of [redacted] NRO. Literally hundreds of personal, telephone and cable contacts have been made - most of them deal with small details of the program - how the data block is configured, etc. We have received their camera, [redacted] manuals. These are sufficient for general program orientation, but for construction of math models and Center ADP programs usually not in enough detail. One shortcoming at present is the lack of detailed contact between

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our working people and their counterparts on the SR-71, both military and contractor. The biggest area needing solution is that of conducting a Center "operational readiness test" - it has not been done because the Center has not yet received (nor been promised) a full set of operational or simulated film and supporting data. Beale's answer is that they are still in "category three" testing and this material cannot be sent yet. We have received various bits and pieces, but not a complete mission "take" to shake down the Center's operating procedures.

7. In summary, NPIC expects to be able to do the necessary exploitation of SR-71 photography, without a major hang-up. The [redacted] won't pose a great problem because they really aren't suited to the specified task. We do need help in the I.N.S. area, and are underway on this, even with some foot-dragging by Beale AFB. This could require up to about two man/years of Center computer-skilled personnel time to be expended between now and 1 December 1967. It should be noted that the Center has been making a continuous effort to stay abreast of developments in the SR-71 program. These efforts have mainly been of a low-key nature, in keeping with the "Air Force tactical" tag on the program. All information held by the Center on the SR-71 program has been obtained through our initiative. The Air Force has only responded to the degree noted after repeated Center urging. However, in anticipation of an announced 1 October 1967 EXCOM Meeting on the OX/SR-71 subject, we have attempted to prepare for any questions they may have for the Center by contacting Beale AFB again. We were attempting to resolve the one major area needing more information, the I.N.S. data reduction process. They were contacted as recently as week before last, by telephone and cable. The answer came back that we should defer a visit for at least four weeks, as they are still testing the system. 25X1

8. It should be noted further that, in our opinion, [redacted] will encounter essentially the same difficulties that NPIC will in regard to the exploitation of the product from the SR-71. They should be able to read out the photography about the same as they are doing currently on IPIRs for the Black Shield. However, their capability for anything other than first phase work will be severely limited. Even the Air Force, with its SAC approach, intended to do only first phase at Beale AFB, and they are configured primarily for this type of work. 25X1

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Technical Advisor, NPIC

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